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| **Common Core State Standard(s):**  Review Multiplying with Fractions. Fifth grade standard | **Instructional Resources:**   * Holt 5-1 & 5-2 * **Modeling Multiplication of Fractions** * **Multiplying Fractions with Circles and Lines** * **Multiplying Fractions with Circle and Lines Answer** * **Rainbow Robots** * **Fraction Application Problems** * **Kuta - Multiplying Fractions** * **Calculator help** * **Recipe using Calculator** * **How to Multiply Fractions Slideshow** * **Modeling Fraction Sheet** * **Multiplication Magic** * **Multiplying Fraction Application** |
| **Mathematical Practice Standard(s):**  **MP.1** Make sense of problems and persevere in solving them.  **MP. 6** Attend to precision. | **Warm-up:**   * As students walk in the door, give each a post-it note (use whiteboards instead if you have them). * Have these directions written on the board upon arrival:  1. Write a proper fraction on your post-it note or whiteboard. 2. Find a partner and multiply the fractions together. 3. Multiply on your own first and check your answer with your partner. 4. Be sure to simplify your answer. 5. Do numbers 2 - 4 again with another person. This time ask them to use mixed numbers. 6. After two rounds sit back down.  * Walk around the room as students are participating in the activity and evaluate how the students are multiplying the fractions and what kind of fractions they are choosing to work with (i.e. halves, thirds, mixed numbers). This would be a great pre-assessment. |
| **Learner Objective:**  As a result in learning, students should be able to…multiply fractions. |
| **Instruction:**  **Day 16**  **Instruction**  Use the **Modeling Multiplication of Fractions** as a review in order to connect to the students' prior knowledge of multiplying fractions. Go through page one as a class. Then have students work together on page 2.   * Have students try **Multiplying Fractions with Circles and Lines** – **Multiplying Fractions with Circle and Lines Answer** * You might want to do one of each to help get students started. * Be sure to explain this is another way to multiply fractions. Go over the answers. * Have students share any other methods they find for multiplying fractions. * Facilitate Guided Practice * Have students practice multiplying a fraction by a fraction and a fraction by a whole number. Give students several example problems to try.   + Then move to multiplying mixed numbers by mixed numbers, by proper fractions, and by whole numbers. Give students several examples to try.   + Have students work in groups of three on the **Fraction Application Problems**. Have students present answers and solution strategies to class *(these were pulled from* [*http://illustrativemathematics.org/standards/k8*](http://illustrativemathematics.org/standards/k8) *Grade 5. You can find the solutions at this website.)* * **Independent Practice** * Have students work in pairs or small groups to solve the **Rainbow Robots** problem. * Give them large sheets of paper to display their solutions. * Have students do a gallery walk to observe how other students solved the problem. * Have them make notes on a sheet of paper about the students who solved it differently than their group. * Discuss as a class. * **Fraction Application Problems** from Initial Instruction * **Kuta - Multiplying Fractions** - [www.kutasoftware.com](http://www.kutasoftware.com) * **Multiplying Fractions Application** | |
| **Comment / Notes:**  **Additional**   * Here are some additional resources to use for multiplying fractions: * Here is a worksheet giving **calculator help** showing the keys to use for this lesson. * **Recipe using Calculator**   Re-Teaching   * **How to Multiply Fractions Slideshow** * **Modeling Fraction Sheet**   Enrichment   * **Multiplication Magic** came from the TAP math workshop. The students have to multiply vertically and horizontally to find the products. Each square can be laminated and students can use dry erase markers to work out the squares. Final answers can be recorded on the record sheet. | |